Necedah

National Wildlife Refuge Visitor Center & Headquarters

About the Refuge

Ten thousand years ago, retreating glaciers left behind vast peat bogs and sand ridges, creating the area known as the great Central Wisconsin Swamp. Today, more than 44,000 acres of that historic area make up the Necedah National Wildlife Refuge. Located in Central Wisconsin, the refuge features large tracts of oak barrens; sand prairies; forests of pine, oak and aspen; and critical open water impoundments. Traditionally, the area was habitat for waterfowl and sandhill cranes. Today, threatened, endangered and rare species such as the Karner blue butterfly, Blanding's turtle and gray wolf inhabit the refuge. The refuge also provides an introduction site for the experimental, eastern population of whooping cranes. The habitat mosaic is maintained by prescribed burning, seasonal mowing, and timber clearing and is monitored and maintained to insure overall vigor of the ecosystem.

Each year, nearly 150,000 people visit Necedah to hike refuge trails, watch and photograph wildlife, hunt and fish. Students from around Central Wisconsin, from Kindergarten through college, make the refuge their classroom as they explore the plants and animals that live there. Visitors enjoy an array of public programs, tours, and special events throughout the year – on topics from fishing to migratory birds. The Friends of Necedah volunteer their time and talent to support refuge programs and events.

Photos from top:
Wood ducks, USFWS, *Karner blue butterfly*, USFWS, *Bluebird*, D. Peterson, USFWS

About the Building
The 11,800 square foot Visitor Center/Headquarters facility includes staff offices, exhibit areas, a multi-purpose room, and bookstore. It features abundant natural light, natural and recycled materials, and a variety of energy efficient elements. Visitors will find the facility welcoming and accessible as it serves as a gateway to explore the refuge. The multi-purpose room will be a flexible space that can be used for school groups, meetings, or presentations. Exhibits highlight the natural history of the refuge and surrounding area and feature hands-on/minds-on discovery opportunities. The project also includes an Environmental Education Building/Outdoor Classroom, accessible trails, boardwalks, and observation areas.

Design Team
Architecture, Landscape Architecture, Civil, Structural, Mechanical and Electrical Engineering.
LHB Inc., Minneapolis & Duluth, MN

Exhibits
Design and Fabrication
Malone Displays, Inc.
Atlanta, GA

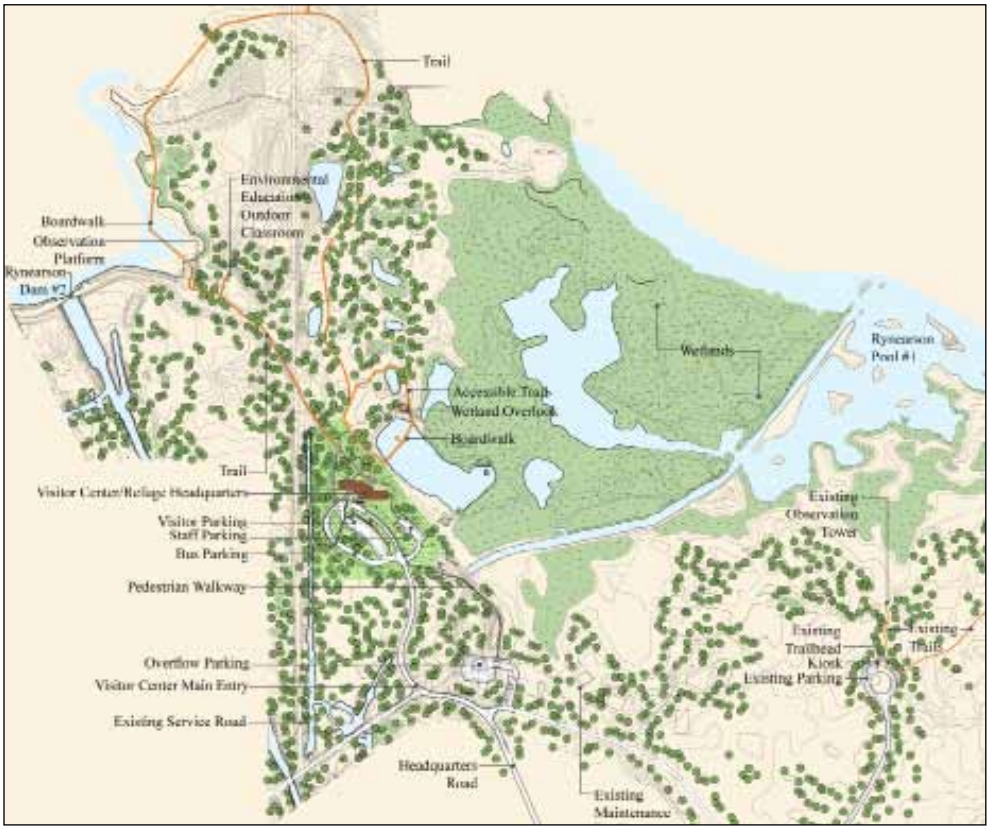
Commissioning
MEP Associates, LLC,
Eau Claire, WI

Project Management
US Fish and Wildlife Service,
Minneapolis, MN

Design Features
- Project registered with the USGBC LEED program, will qualify for a Silver rating.

Landscaping and exterior elements
- Reduction of impervious cover and use of bioinfiltration basins to minimize storm water runoff. Composite permeable pavers that are 95% recycled material, such as scrap tires, are used at patios to minimize hard surface run off.
- Landscape with native species not requiring irrigation or extensive maintenance.
- Light pollution impact reduced by use of dark sky friendly exterior lighting fixtures.
- Metal roof meets Solar Reflectance Index to minimize heat island effect, has a high recycled content and is a long life, low maintenance material.

Building Materials
- Environmentally friendly, natural materials including fiber cement siding, wood framing, metal roof, and lineoleum flooring made of linseed oil, cork, limestone, tree rosin and natural minerals.
- Low emitting materials (low VOC) selected to reduce indoor air contaminants and provide a healthy environment for occupants.
- Materials selected for high recycled content including concrete, pavers, carpet and metal roof.
- Regionally extracted and manufactured materials including natural stone.



Energy efficiency
- Building configuration and windows strategically placed to maximize natural light and views.
- Super insulating windows.
- Low -e insulating glass minimizes solar heat gain while maximizing visible light transmittance.
- Building systems and enclosure designed to achieve 30% or better energy savings over ASHRAE 90.1 requirements.
- Blown in cellulose attic insulation and foamed in place wall insulation exceed energy code R-values.
- Geothermal water to water and water to air HVAC systems using vertical ground coupled heat exchange wells.
- In floor radiant heat provides energy efficient, low-cost comfort to the slab on grade construction.
- Mechanical ventilation treated separately from heating and cooling to maximize energy saving and system control.
- Lighting control system including occupancy sensors, time sensors and dimmer panels designed to minimize energy use.
- Operable windows in offices for individual control of ventilation.
- 48 KW Photovoltaic system will contribute up to 50% of the energy used on site.
- Enhanced Commissioning to ensure systems operate as designed for maximum efficiency.

Water efficiency
- Water efficiency through use of high efficiency plumbing fixtures with average water consumption rates below EPAct by 20%.
- Rainwater harvesting system reduces potable water use. Rainwater is collected and used for plumbing fixture flushing.